

**THIS OPINION WAS NOT WRITTEN FOR PUBLICATION**

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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**Ex parte** IAN P. ATKINS, DAVID M. WILLIAMS  
and DENNIS M. PRYOR

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Appeal No. 1996-4118  
Application 08/084,255<sup>1</sup>

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ON BRIEF

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Before KRASS, FLEMING and LALL, **Administrative Patent Judges.**

FLEMING, **Administrative Patent Judge.**

**DECISION ON APPEAL**

This is a decision on appeal from the final rejection of claims 1, 2 and 5 through 32, all of the claims pending in the present application. Claims 3 and 4 have been canceled.

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<sup>1</sup> Application for patent filed July 7, 1993. According to Appellants, this application is a National Stage application under 35 U.S.C. 371 of PCT/GB92/00027, filed January 7, 1992.

The invention relates to arrangements for protecting electrical circuits from overcurrents. In particular on page 9 of the specification, Appellants disclose that figure 3 shows a two terminal protection arrangement in which an enhancement mode MOSFET 1 passes the operating current of the circuit. The gate of the switching transistor 1 is connected to its drain via a battery 3 and a current limiting resistor 5. A control MOSFET 4 is connected across the gate-source junction of transistor 1. The gate voltage of the control transistor 4 is held by a voltage divider formed from resistance 6 and resistance 7 which span the switching transistor. In operation of this arrangement, the current required to cause it to switch is determined by the potential divider resistors 6 and 7 in addition to the threshold voltage of transistor 4 and the channel resistance of a switching transistor. On page 8 of the specification, Appellants disclose that the arrangement must be disconnected from the circuit supply or load so that it will reset itself.

Independent claim 1 is reproduced as follows:

1. A two terminal circuit protection arrangement which:

(1) is intended to be series connected in a line of a circuit to be protected;

(2) comprises:

(a) a series switching transistor which

i. is selected from bipolar transistors and field effect transistors and

(i) if it is a bipolar transistor, comprises a collector, an emitter and

a base, and

(ii) if it is a field effect transistor, comprises a drain, a source and a gate, and

ii. controls the line current;

(b) a voltage divider which is connected to the source and drain or to the emitter and collector of the switching transistor, and

(c) a control transistor which

i. is selected from bipolar transistors and field effect transistors, and

(i) if it is a bipolar transistor, comprises a collector, an emitter and a base, and

(ii) if it is a field effect transistor, comprises a drain, a source and a gate,

ii. has its base or gate voltage determined by the voltage divider,

iii. control the base or gate voltage of the switching transistor; and

iv. is turned on by a voltage across the collector and emitter or source and drain of the switching transistor resulting from an overcurrent through the switching transistor, thereby causing the switching transistor to put the arrangement in a non-conductive state, and

(d) a voltage source which is applied to the base or gate of the switching transistor and which biases the switching transistor into or toward conduction in normal operation; and

(3) is capable of being reset from the non-conducting state into a conducting state by a remotely controlled interrupting means which interrupts current in the line of the circuit to be protected.

The Examiner relies on the following references:

Kellenbenz	4,396,882	Aug. 2, 1983
Kumada et al. (Kumada)	4,833,390	May 23, 1989
Edwards et al. (Edwards)	4,937,697	June 26, 1990
Nadd, et al. (Nadd) (French Patent Application)	2,564,261	Nov. 15, 1985

Claims 1, 2, 5 through 9, and 12 through 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nadd in view of Kellenbenz.

Claim 9 stands rejected under 35 U.S.C. § 103 as being unpatentable over Nadd in view of Kellenbenz and further in view of Kumada and Edwards.<sup>2</sup>

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the briefs<sup>3</sup> and answer for the respective details thereof.

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<sup>2</sup> On page 3 of the Examiner's answer, the Examiner has allowed claims 10, 11 and 18 through 32. Therefore, only claims 1, 2, 5 through 9 and 12 through 17 remain finally rejected and are under appeal.

<sup>3</sup> Appellants filed an appeal brief on May 28, 1996. Appellants filed a reply brief on August 30, 1996. The Examiner mailed a communication on September 16, 1996 stating that the reply brief has been entered and considered but no further response by the Examiner was deemed necessary.

## OPINION

We will not sustain the rejection of claims 1, 2, 5 through 9, and 12 through 17 under 35 U.S.C. § 103.

The Examiner has failed to set forth a *prima facie* case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained in such teachings or suggestions. *In re Sernaker*, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." *Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), *cert. denied*, 519 U.S. 822 (1996), *citing W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

On pages 8 and 9 and the brief, Appellants argue that neither Nadd nor Kellenbenz teaches or suggests separately or in combination a two terminal circuit protection arrangement which may be reset by interrupting current in the line of the circuit to be protected as recited in Appellants' independent claim 1, 10 and 11. Appellants also argue that neither Nadd nor Kellenbenz teaches or suggests separately or in combination a two terminal circuit protection arrangement which may be reset by disconnecting the circuit voltage or current source, or the load from the electrical circuit as recited in

Appellants' independent claim 12.

In response to these arguments, the Examiner states on pages 6 and 7 of the answer that Appellants' claim language that the two terminal circuit protection arrangement which is requiring capable of being reset remotely has no probative value. Appellants argue that Nadd's element 49 in figure 7 and Kellenbenz' elements 52, 54 and 60 in figure 3 disclose and teach an arrangement which is capable of being reset as claimed by Appellants.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." *In re Hiniker Co.*, 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998).

We note that independent claims 1, 10 and 11 all recite a two terminal circuit protection arrangement which is intended to be series connected in a line of a circuit to be protected; and which is capable of being reset from the non-conducting state into a conducting state by a remotely controlled interrupting means which interrupts current in the line of the circuit to be protected. We note that Appellants' claim 12 recites an electrical circuit which comprises a circuit voltage or current source, a load and a current-carrying line connecting the source and load, the circuit including a two terminal circuit protection arrangement that: is series connected in the current-carrying line and which is capable of being reset from the non-conducting state into a conducting state by a remotely controlled interrupting means which disconnects the circuit voltage or current source, or the load, from the

electrical circuit. Thus, we find that Appellants' claims 1, 10 and 11 positively recite a two terminal circuit protection arrangement which is capable of being reset from the non-conducting state into a conducting state by a remotely controlled interrupting means which interrupts current in the line of the circuit to be protected. In addition, we find that Appellants' claim 12 positively recites a two terminal circuit protection arrangement which is capable of being reset from the non-conducting state into a conducting state by a remotely controlled interrupting means which disconnects the circuit voltage or current source, or the load, from the electrical circuit.

Our reviewing court states in *In re Piasecki*, 745 F.2d 1468, 223 USPQ 785, 788 (Fed. Cir. 1984) the following:

The Supreme Court in *Graham v. John Deere Co.*, 383 U.S. 1 (1966), focused on the procedural and evidentiary processes in reaching a conclusion under Section 103. As adapted to ex parte procedure, Graham is interpreted as continuing to place the "burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under section 102 and 103". *Citing In re Warner*, 379 F.2d 1011, 1020, 154 USPQ 173, 177 (CCPA 1967).

We fail to find that the Examiner has produced the factual basis for the rejection of claims 1, 2, 5 through 9, and 12 through 17. The Examiner's reliance on the Nadd push button 49 shown in figure 7 fails to provide any evidence of a two terminal circuit protection arrangement which is capable of being reset from the non-conducting state into a conducting state by a remotely controlled interrupting means. The push button 49 is local and is not remote and that any modifications of having the push

button to be remote would result in a structure that is not a

two terminal circuit protection arrangement. Similarly, the reliance of the Kellenbenz teachings of elements 52, 54 and 60 in figure 3 is misplaced as well. These elements if used to modify the Nadd arrangement would result in an arrangement other than a two terminal circuit protection arrangement as claimed by the Appellants.

In view of the foregoing, we will not sustain the rejection of claims 1, 2, 5 through 8, and 12 through 17 under 35 U.S.C. § 103 as being unpatentable over Nadd in view of Kellenbenz. Furthermore, we note that the Examiner has used the same reasoning for the rejection of claim 9 in the rejection under 35 U.S.C. § 103 as being unpatentable over Nadd in view of Kellenbenz and in further view of Kumada and Edwards. We fail to find that Kumada and Edwards provide any evidence of a two terminal circuit protection arrangement which is capable of being reset from the non-conducting state into a conducting state by a remotely controlled interrupting means.



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We have not sustained the rejection of claims 1, 2, 5 through 9, and 12 through 17 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

**REVERSED**

ERROL A. KRASS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
MICHAEL R. FLEMING	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
PARSHOTAM S. LALL	)	
Administrative Patent Judge	)	

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